

RESPONSE UNDER 37 C.F.R. § 1.116

EXPEDITED PROCEDURE – Art Unit 1734

Attorney Docket No. 108298404US2

Disclosure No. 99-0319.02/US

Amendments to the Claims:

Please amend claims 75, 78, 79, and 83 and cancel claims 77 and 82 as follows. Following is a complete listing of the claims pending in the application, as amended:

1-66. (Canceled)

67. (Previously Presented) The apparatus of claim 69 wherein the support device includes first and second rollers coupled to the support material and rotatable relative to each other to advance the support material from the first roller to the second roller.

68. (Previously Presented) An apparatus for forming a planarizing pad for mechanically and/or chemically-mechanically planarizing a microelectronic substrate, comprising:

a support device configured to support a pad support material in a selected position;

a vessel configured to contain a non-solid planarizing pad material;

at least one nozzle operatively coupled to the vessel and coupled to a source of compressed gas, the nozzle configured to mix the planarizing pad material with the compressed gas to form discrete texture elements for disposing on the support material; and

a hopper positioned between the nozzle and the support device, the hopper having a first opening positioned proximate to the at least one nozzle and a second opening proximate to the support material when the support material is supported by the support device.

69. (Previously Presented) An apparatus for forming a planarizing pad for mechanically and/or chemically-mechanically planarizing a microelectronic substrate, comprising:

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a support device configured to support a pad support material in a selected position;
a vessel configured to contain a non-solid planarizing pad material; and at least one nozzle operatively coupled to the vessel and coupled to a source of compressed gas, the nozzle configured to mix the planarizing pad material with the compressed gas to form discrete texture elements for disposing on the support material;
wherein the support material is elongated in a longitudinal direction and the at least one nozzle is the first of two nozzles coupled to the vessel, the second nozzle being offset in the longitudinal direction and in a lateral direction transverse to the longitudinal direction relative to the first nozzle.

70. (Original) The apparatus of claim 69, further comprising:

a manifold coupled to the vessel;
a first spraybar coupled to the manifold and extending over the support material in transverse direction when the support material is supported by the support device, the first nozzle being connected to the first spraybar; and a second spraybar coupled to the manifold and spaced apart from the first spraybar in the longitudinal direction, the second spraybar extending transversely over the support material when the support material is supported by the support device, the second nozzle being connected to the second spraybar.

71. (Previously Presented) The apparatus of claim 69, further comprising a heating element positioned proximate to the support device and proximate to the pad support material when the pad support material is supported by the support device.

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72. (Previously Presented) An apparatus for forming a planarizing pad for mechanically and/or chemically-mechanically planarizing a microelectronic substrate, comprising:

a support device configured to support a pad support material in a selected position;

a vessel configured to contain a non-solid planarizing pad material;

at least one nozzle operatively coupled to the vessel and coupled to a source of compressed gas, the nozzle configured to mix the planarizing pad material with the compressed gas to form discrete texture elements for disposing on the support material; and

a grate between the nozzle and the support device, the grate having a plurality of apertures sized to pass the discrete texture elements therethrough.

73. (Previously Presented) The apparatus of claim 69 wherein the first and second nozzles are positioned to spray the discrete texture elements directly onto the support material.

74. (Previously Presented) The apparatus of claim 68 wherein the vessel is a first vessel, and wherein the apparatus further comprises a second vessel positioned proximate to the second opening, the second vessel configured to contain the discrete texture elements and a film material.

75. (Currently Amended) An apparatus for forming a planarizing pad for mechanically and/or chemically-mechanically planarizing a microelectronic substrate, the apparatus comprising:

a support device configured to support a pad support material in a selected position;

a vessel for mixing a planarizing pad material; and

a nozzle in fluid communication with the vessel and configured to form the planarizing pad material into discrete texture elements for disposing on the pad support material, wherein the pad support material is elongated in a

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longitudinal direction, and wherein the nozzle is positioned to spray the discrete texture elements at least partially in the longitudinal direction; and a hopper positioned between the nozzle and the support device, the hopper having a first opening positioned proximate to the nozzle and a second opening proximate to the support material when the support material is supported by the support device.

76. (Previously Presented) The apparatus of claim 75 wherein the support device includes first and second rollers coupled to the support material and rotatable relative to each other to advance the support material from the first roller to the second roller.

77. (Canceled).

78. (Currently Amended) The apparatus of claim 75 An apparatus for forming a planarizing pad for mechanically and/or chemically-mechanically planarizing a microelectronic substrate, the apparatus comprising:

a support device configured to support a pad support material in a selected position;
a vessel for mixing a planarizing pad material; and
a nozzle in fluid communication with the vessel and configured to form the planarizing pad material into discrete texture elements for disposing on the support material, wherein the pad support material is elongated in a longitudinal direction, and wherein the nozzle is positioned to spray the discrete texture elements at least partially in the longitudinal direction,
wherein the support material is elongated in a longitudinal direction and the nozzle is a first nozzle, and wherein the apparatus further comprises a second nozzle in fluid communication with the vessel, the second nozzle being offset in the longitudinal direction and in a lateral direction transverse to the longitudinal direction relative to the first nozzle.

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79. (Previously Presented) ~~The apparatus of claim 78, further~~An apparatus for forming a planarizing pad for mechanically and/or chemically-mechanically planarizing a microelectronic substrate, the apparatus comprising:

a support device configured to support a pad support material in a selected position;

a vessel for mixing a planarizing pad material;

a nozzle in fluid communication with the vessel and configured to form the planarizing pad material into discrete texture elements for disposing on the support material, wherein the pad support material is elongated in a longitudinal direction, and wherein the nozzle is positioned to spray the discrete texture elements at least partially in the longitudinal direction;

a manifold coupled to the vessel;

a first spraybar coupled to the manifold and extending over the support material in transverse direction when the support material is supported by the support device, the first nozzle being connected to the first spraybar; and

a second spraybar coupled to the manifold and spaced apart from the first spraybar in the longitudinal direction, the second spraybar extending transversely over the support material when the support material is supported by the support device, the second nozzle being connected to the second spraybar.

80. (Previously Presented) The apparatus of claim 75, further comprising a heating element positioned proximate to the support device and proximate to the pad support material when the pad support material is supported by the support device.

81. (Previously Presented) The apparatus of claim 75, further comprising a grate between the nozzle and the support device, the grate having a plurality of apertures sized to pass the discrete texture elements therethrough.

82. (Canceled).

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83. (Previously Presented) The apparatus of claim 75 wherein the vessel is a first vessel, and wherein the apparatus further comprises:

~~a hopper having a first opening positioned proximate to the at least one nozzle and a second opening for dispensing the discrete texture elements; and~~
a second vessel positioned proximate to the second opening, the second vessel configured to contain the discrete texture elements and a film material.